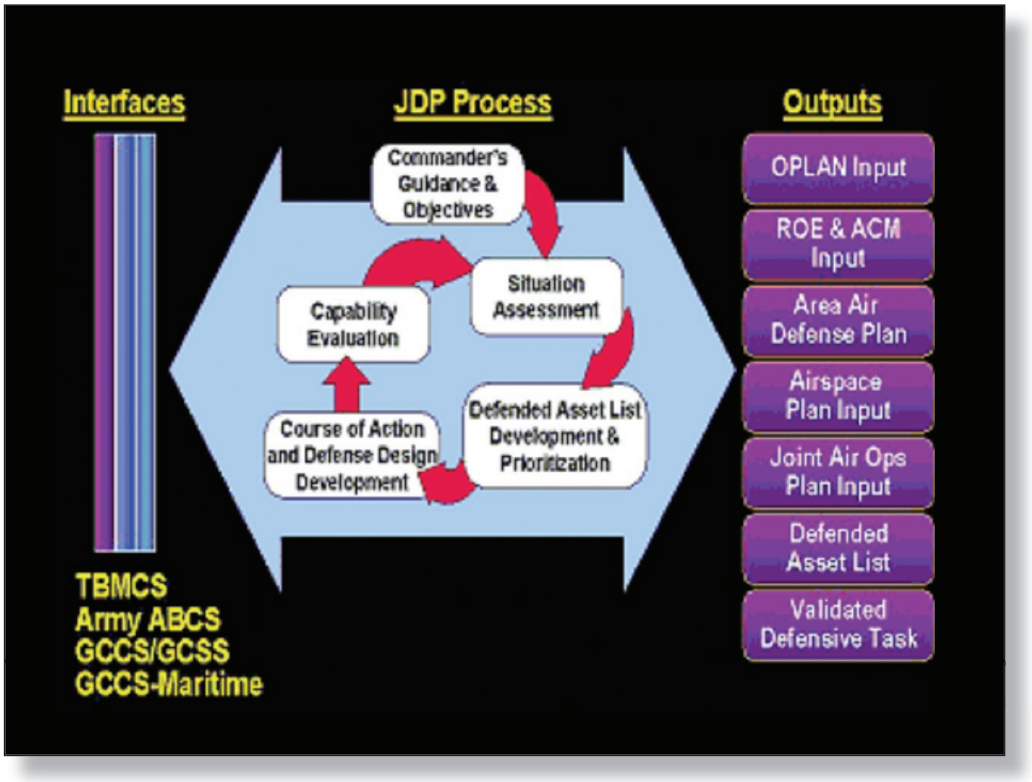
Air Force Research Laboratory|AFRL
Science and Technology for Tomorrow's Air and Space Force

Success Story

JOINT DEFENSIVE PLANNER TRANSITIONED



The Joint Defensive Planner (JDP) is the first automated tool that supports operational users during the defensive planning process and provides the necessary analysis tools to compare various defensive designs. The results are better, faster campaign planning inside the enemy's decision-making process and an increased pace of command and control for a higher operations tempo. JDP is a Theater Battle Management Core System mission application as well as a Global Command and Control System segment that supports planning for joint service and coalition forces' active defense against aircraft (manned and unmanned), cruise missiles, and ballistic missiles in a theater of operations.

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Accomplishment

The Information Directorate manages the JDP program that assists those individuals responsible for planning, evaluating, and implementing theater air and missile defense (TAMD). JDP is capable of supporting in-garrison, long-term deliberate planning, short-term contingency planning, in-theater plan refinement, and continuous plan repair. JDP provides service interoperability through collaboration with an Army planning system Air and Missile Defense Workstation (AMDWS) and other external systems through the use of Enterprise Java Beans™ (EJB).

Through this technology, JDP exposes the objects necessary for remote access by all external systems such as AMDWS. EJB allows the JDP object to be deployed anywhere within the network, reused within other applications running on disparate platforms, and managed from a remote console. EJB hides the complexities of making the JDP objects persistent, finding them over the network, securing them, isolating them from sharing conflicts, protecting them from failures, managing their lifecycle, and ensuring their scalability and availability.

Background

The Missile Defense Agency and the Air Force jointly funded the JDP research and development program. The objective was to develop a single, joint area air and missile defense plan to support the Combatant Commander, Joint Force Air Component Commander, and Area Air Defense Commander's battle staffs across all phases of a campaign. JDP assists the planners on these staffs in utilizing limited defensive resources tasked to counter projected enemy courses of action against rank-ordered strategic and operational assets.

JDP, through the use of the Alternative Options Generator, is able to automatically develop up to four different defense designs for consideration by the TAMD planner. The real-world situation is transformed into a mathematical framework of selected sets. The first set consists of the elements to be covered (defended assets); the second set consists of the pairings of threats to defended assets (enemy courses of action); and the third set consists of defense options of an active defense system together with the threat incidences it can counter through defensive tasks. The JDP distributed architecture permits it to make defense designs available to external high-fidelity simulation systems for detailed analysis that can then be used to update the defense design.

Information
Technology Transfer

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (03-IF-12)